



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,082	03/25/2004	Jin-Won Jung	04019.00048	7668
47359	7590	10/11/2006		EXAMINER
EDWARD J. TIMMER				WYSZOMIERSKI, GEORGE P
P. O. BOX 770				
RICHLAND, MI 49083			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,082	JUNG ET AL.	
	Examiner	Art Unit	
	George P. Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 9/1/06 (Election).
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 18-28 and 31-33 is/are withdrawn from consideration.
- 5) Claim(s) 29 is/are allowed.
- 6) Claim(s) 1-3,8-10,16 and 30 is/are rejected.
- 7) Claim(s) 4-7,11-15 and 17 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

Art Unit: 1742

1. Applicant's election without traverse of Group I, claims 1-17 and 29-33, as well as the election of the Ni-Ti-Al species in the response filed September 1, 2006 is acknowledged. Claims 18-28 are withdrawn from consideration as being directed to a non-elected invention, and claims 31-33 are withdrawn from consideration as being directed entirely to non-elected species. Claims 1 and 16 are being examined to the extent that they read on the elected species.

2. Claims 8, 9, 16 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) In claims 8 and 9, the meaning of the term "T₀" is undefined.
- b) In claim 16, it is unclear what additional components would or would not be present in the claimed "buffer phase".
- c) Claim 30 as drafted appears to be incorrect as it indicates that "the balance nickel" is entirely present in the nanodispersed phase, i.e. not in the main phase of the alloy. Clarification is required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1742

4. Claims 1, 2, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Koizumi et al. Materials Science and Engineering article (reference "AH" on the attached PTO-1449 form).

Koizumi discloses a nickel-titanium-aluminum shape memory alloy having a composition as claimed and including a parent phase and a β' phase dispersed therein. Koizumi does not specify the amount of misfit created by the dispersed phase, does not specify the transformation temperature of the alloy, and does not specify the presence of an "additional, multi-component buffer phase". However, these features of the claimed invention would appear to be a result of the composition and processing history of a given alloy. Because these factors may be the same in both the Koizumi materials and those as claimed, a *prima facie* case of obviousness is established between the disclosure of Koizumi et al. and the presently claimed invention.

5. Claims 1, 2, 3, 8, 9, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Jung et al. Met.Trans. A article (reference "AD" on the 1449 form). It is noted that this publication is "by another" because the prior art article includes two authors who are not inventors of the present application.

Jung discloses NiTiAlX shape memory alloys (where X= Hf or Zr, specifically 5 at % of Hf or Zr) having a composition as presently claimed, and including a Heusler phase precipitated in a parent B2 phase and having a misfit amount within the range as presently claimed. Jung does not disclose the shape of the parent phase upon stress and unloading as presently claimed, does not specify the transformation temperature of the alloy, and does not specify the presence of an "additional, multi-component buffer phase". However, these features of the claimed invention would appear to be a result of the composition and processing history of a given alloy. Because these factors may be the same in both the Jung materials and those

Art Unit: 1742

presently claimed, a prima facie case of obviousness is established between the disclosure of Jung et al. and the presently claimed invention.

6. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, supra.

7. Claims 4-7, 11-15 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 29 is allowable over the prior art of record, and claim 30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300. This Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPW
October 2, 2006


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700